

In the Claims:

1 1. (original) A hard sintered body indexable insert in which
2 a hard sintered body that contains cubic boron nitride by
3 20 vol % or more is brazed to a seating groove formed at a
4 corner of a tool substrate, and a ridge of the hard
5 sintered body is used as a cutting edge, the hard sintered
6 body indexable insert characterized in that at least a pair
7 of hard sintered bodies or composite hard sintered bodies
8 are disposed on upper and lower surfaces in a thickness
9 direction of the hard sintered body indexable insert; a
10 thickness of a part of the tool substrate between the pair
11 of seating grooves is within a range of 30% to 90% with
12 respect to a thickness of the hard sintered body indexable
13 insert; a length of a cutting edge of the hard sintered
14 body or of the composite hard sintered body is within a
15 range of 0.5 mm to 4.0 mm; and a bonding layer that has
16 been brazed contains 0.5 to 65 wt % Ti and/or Zr and
17 further contains Cu.

1 2. (original) The hard sintered body indexable insert as
2 recited in Claim 1, wherein the hard sintered body or the
3 composite hard sintered body is 0.8 mm to 1.6 mm in
4 thickness per piece.

Claims 3 to 7 (canceled).

8. (currently amended) A manufacturing method for manufacturing ~~a the~~ hard sintered body indexable insert according to claim 1, in which a hard sintered body that contains cubic boron nitride by 20 vol % or more is brazed to a seating groove formed at a corner of a tool substrate, and a ridge of the hard sintered body is used as a cutting edge, the manufacturing method comprising:

a step of preparing a paste-like brazing alloy by mixing a powdery brazing alloy that contains 0.5 to 65 wt % Ti and/or Zr and that further contains Cu with an organic binder;

a step of bonding the hard sintered body or the composite hard sintered body to a seating groove of the upper surface of the tool substrate through the paste-like brazing alloy and thereafter temporarily fastening the hard sintered body or the composite hard sintered body by evaporating a solvent component of the organic binder;

a step of bonding the hard sintered body or the composite hard sintered body to a seating groove of the lower surface of the tool substrate through the paste-like brazing alloy and thereafter temporarily fastening the hard sintered body or the composite hard sintered body by evaporating the organic binder; and

a step of brazing and fixing the hard sintered body indexable insert in which the hard sintered body or the composite hard sintered body is bonded to tool substrate in a vacuum or in an inert gas atmosphere.

In the Claims:

- 1 1. (original) A hard sintered body indexable insert in which
2 a hard sintered body that contains cubic boron nitride by
3 20 vol % or more is brazed to a seating groove formed at a
4 corner of a tool substrate, and a ridge of the hard
5 sintered body is used as a cutting edge, the hard sintered
6 body indexable insert characterized in that at least a pair
7 of hard sintered bodies or composite hard sintered bodies
8 are disposed on upper and lower surfaces in a thickness
9 direction of the hard sintered body indexable insert; a
10 thickness of a part of the tool substrate between the pair
11 of seating grooves is within a range of 30% to 90% with
12 respect to a thickness of the hard sintered body indexable
13 insert; a length of a cutting edge of the hard sintered
14 body or of the composite hard sintered body is within a
15 range of 0.5 mm to 4.0 mm; and a bonding layer that has
16 been brazed contains 0.5 to 65 wt % Ti and/or Zr and
17 further contains Cu.
- 1 2. (original) The hard sintered body indexable insert as
2 recited in Claim 1, wherein the hard sintered body or the
3 composite hard sintered body is 0.8 mm to 1.6 mm in
4 thickness per piece.
- 1 14. (previously added) The hard sintered body indexable insert
2 as recited in Claim 1, wherein the bonding layer contains
3 20 wt % to 30 wt % Ti and 20 wt % to 30 wt % Zr, and the
4 remainder of Cu and inevitable impurities.

1 9. (original) The manufacturing method as recited in Claim 8,
2 wherein the brazing alloy contains 20 wt % to 30 wt % Ti
3 and 20 wt % to 30 wt % Zr, and the remainder of Cu and
4 inevitable impurities.

1 10. (original) The manufacturing method as recited in Claim 8,
2 wherein the brazing alloy contains 0.5 wt % to 20 wt % Ti
3 and/or Zr, 10 wt % to 40 wt % Cu, and the remainder of Ag
4 and inevitable impurities.

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1 11. (original) The manufacturing method as recited in Claim 8,
2 wherein the brazing alloy contains 0.5 wt % to 10 wt % Ti
3 and/or Zr, 5 wt % to 20 wt % In, 15 wt % to 35 wt % Cu, and
4 the remainder of Ag and inevitable impurities.

Claim 12 (canceled).

1 13. (previously added) The hard sintered body indexable insert
2 as recited in Claim 1, wherein the hard sintered body is
3 bonded directly to the tool substrate through the bonding
4 layer.

1 14. (previously added) The hard sintered body indexable insert
2 as recited in Claim 1, wherein the bonding layer contains
3 20 wt % to 30 wt % Ti and 20 wt % to 30 wt % Zr, and the
4 remainder of Cu and inevitable impurities.

1 15. (previously added) The hard sintered body indexable insert
2 as recited in Claim 1, wherein the bonding layer contains
3 0.5 wt % to 20 wt % Ti and/or Zr and contains 10 wt % to 40
4 wt % Cu and the remainder of Ag and inevitable impurities.

1 16. (previously added) The hard sintered body indexable insert
2 as recited in Claim 1, wherein the bonding layer contains
3 0.5 wt % to 10 wt % Ti and/or Zr, and contains 5 wt % to 20
4 wt % In and 15 wt % to 35 wt % Cu, and the remainder of Ag
5 and inevitable impurities.

1 17. (previously added) The hard sintered body indexable insert
2 as recited in Claim 1, wherein on a surface of the hard
3 sintered body indexable insert, there is formed a coating
4 layer comprising at least one element selected from the
5 group consisting of elements belonging to groups IVa, Va,
6 VIa in the periodic table and elements Al, Si, and B, or at
7 least one compound selected from the group consisting of
8 nitride, carbide, or oxide of at least one metal selected
9 from this group, and their solid solutions.

1 18. (previously added) The manufacturing method as recited in
2 Claim 8, further comprising a step of forming, on a surface
3 of the hard sintered body indexable insert, a coating layer
4 comprising at least one element selected from the group
5 consisting of elements belonging to groups IVa, Va, VIa in
6 the periodic table and elements Al, Si, and B, or at least
7 one compound selected from the group of nitride, carbide,

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8 or oxide of at least one metal selected from this group,
9 and their solid solutions, according to a physical vapor
10 deposition method or according to a chemical vapor
11 deposition method.

[RESPONSE CONTINUES ON NEXT PAGE]